QUARTERLY STATUS REPORT

ROCKY FLATS CLEANUP AGREEMENT IMPLEMENTATION

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

FOURTH QUARTER FISCAL YEAR 2000

1.0 Introduction

Pursuant to paragraph 263 of the Rocky Flats Cleanup Agreement (RFCA or Agreement), this quarterly status report presents the progress toward implementation of activities covered under the Agreement. The RFCA is a legally binding agreement between the Department of Energy (DOE), the Environmental Protection Agency (EPA), and the Colorado Department of Public Health and Environment (CDPHE) to accomplish required cleanup of radionuclide and hazardous substance contamination at and from the Rocky Flats Environmental Technology Site (RFETS or Site).

This report describes activities that occurred from July 2000 through September 2000 (referred to as the fourth quarter of fiscal year [FY] 00). The sections of this report are organized into the following topics: (1) Introduction; (2) Site-wide Activities Implementing RFCA and Supporting Site Closure; (3) Site Closure Projects; (4) RFCA Milestones and Target Activities; (5) Water Management; and (6) List of Approved Decision Documents.

2.0 Site-wide Activities Implementing RFCA and Supporting Site Closure

Site-wide activities implementing RFCA and supporting site closure during the fourth quarter of FY00 included: (1) Accelerating Cleanup: Path to Closure; (2) Closure Project Baseline (CPB); (3) Integrated Monitoring Plan (IMP) Update; (4) Actinide Migration Evaluation (AME) Update; (5) RFCA Standard Operating Protocol (RSOP) Update; (6) Industrial Area Characterization and Remediation Strategy Update; (7) Historical Release Report (HRR) and Environmental Restoration (ER) Ranking Update; and (8) Site-wide Water Balance Update.

2.1 Accelerating Cleanup: Path to Closure

The *Path to Closure* document is based on the Integrated Planning, Accountability, and Budgeting System database, through which Kaiser-Hill Company, L. L. C. (Kaiser-Hill) provides current project data to DOE. During the fourth quarter of FY00, Kaiser-Hill updated the Integrated Planning, Accountability, and Budgeting System database in all three areas of RFETS participation: planning, project execution, and waste stream disposition.

2.2 Closure Project Baseline

Kaiser-Hill submitted Revision 5 of the CPB to the DOE Rocky Flats Field Office (RFFO) on June 30, 2000. Pursuant to the provisions of the new closure contract, Kaiser-Hill immediately began implementing the new baseline. Starting July 1, 2000 Kaiser-Hill's project performance has been measured against the new baseline. During the fourth quarter of FY00, Kaiser-Hill submitted the Annual Work Analysis (AWA), which is the one-year portion of the baseline describing the upcoming fiscal year. It is submitted annually to the DOE in order to describe the work scope which is to be funded in the upcoming fiscal year. Also during the fourth quarter of FY00, RFFO conducted a review of the CPB and the AWA. Kaiser-Hill and the DOE are currently working through the baseline issues identified in the review.

2.3 Integrated Monitoring Plan Update

The IMP Surface Water Working Group met three times during the fourth quarter of FY00, including two meetings in August intended to expedite the rather substantial revision effort. One change presented to the group was language incorporating a new Point of Evaluation (POE) at Building (B)995 (Wastewater Treatment Plant.) A decision flow-chart, presented earlier in the year, was also discussed briefly to remind the authors of the surface water section to be sure to incorporate it into the text.

Other changes discussed included CDPHE proposals to add a surface water uranium Inductively-Coupled Plasma/Mass Spectroscopy (ICP/MS) study and quarterly nitrate monitoring to the IMP. These CDPHE proposed *ad hoc* monitoring projects involve the use of Site resources for which no support funding exists.

One significant surface water discussion, to be continued for resolution after the revisions to this year's IMP are completed, is the consideration of an appropriate sample size for surface water samples subject to regulatory requirements under RFCA. The IMP contains a requirement that a sample of at least four liters, plus a smaller screening aliquot, is the minimum that will provide a well quantified, valid analytical result for radionuclides from continuously sampled Points of Compliance (POC) and POEs. An Administrative Law Judge determined that an exceedance of the RFCA action level could not be determined with an amount of water less than that specified in the IMP. EPA and CDPHE have asked for a review of the volume requirement so that its basis is understood and defined on more sound principles than are presently documented in the IMP. The continuing discussion relates to the minimum detectable activity (MDA) necessary to assure the representativeness of the analytical result, and the methodology used to calculate both the MDA and the blank uncertainty. The discussion will continue in the first quarter of FY01.

Another continuing discussion deals with how to incorporate hardness data into the measurement of certain metal concentrations in surface water, and how action levels for

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metals can be properly defined under RFCA using the hardness information specific to the Site.

In the Groundwater Working Group, which met in September, minor revisions are being made to incorporate new monitoring locations into the document, and to better define the performance monitoring guidelines for Decontamination & Decommissioning (D&D) and ER project monitoring.

Finally, a session of the Air Monitoring Working Group met in September, intending primarily to review a proposed enhanced comprehensive performance monitoring approach for D&D and ER projects. The plan lays out a more extensive array of samplers around the industrial area, and provides for continuous monitoring during all D&D/ER activities that have a potential to emit significant radio-particulate into the air. The proposed array is twice the size of the existing performance monitoring network, and relies on the same sampling and analysis schedule as presently contained in the IMP. Additional discussion was held regarding possible shorter term monitoring of these projects, but no plan has been presented that will provide acceptable temporal resolution and level of detection.

During October, the review comments on each section will be incorporated into a final FY01 IMP and separate 2001 IMP Baseline Document. The documents will be distributed in November.

2.4 Actinide Migration Evaluation Update

Kaiser-Hill established an AME (formerly called the Actinide Migration Studies) Group to provide expert guidance and data on issues of actinide (plutonium, americium, and uranium) behavior and mobility in surface water, groundwater, and soil environments. Specifically, the goal of the AME is to answer the following questions in the order of urgency shown:

- Urgent: What are the important actinide migration sources and migration processes that account for recent surface water elevated values?
- Near-term: What will be the impacts of actinide migration on planned remedial actions? To what level do sources need to be cleaned up to protect surface water from exceeding action levels for actinides?
- Long-term: How will actinide migration affect surface water quality after Site closure (what soil action levels would sufficiently protect surface water over the long-term)?
- Long-Term: What is the long-term off-site actinide migration, and will it impact downstream areas (e.g. accumulation)?

The Advisors to the AME Group have been delegated to draw on the state-of-the art understanding in the scientific community on actinide chemistry, geochemistry, and biological transport and apply them to actinide migration issues at RFETS.

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During the fourth quarter of FY00, the AME Group conducted the following activities: (1) finalized the document titled "Report on Soil Erosion and Surface Water Sediment Transport Modeling for the Actinide Migration Evaluation at the Rocky Flats Environmental Technology Site", dated August 2000 which represented the culmination of more than two years of work on erosion and sediment transport modeling; (2) finalized the Air Transport and Deposition of Actinides for the Actinide Migration Evaluation at the Rocky Flats Environmental Technology Site FY00 Report" dated September 2000, which discussed the results of air transport modeling scenarios; and (3) finalized the FY00 work on phase speciation of plutonium and americium for soil, sediment, and water samples. In addition, a stakeholder workshop was held on August 28, 2000 to discuss the results of the erosion and sediment transport modeling.

A stakeholder meeting was held on October 12, 2000 to discuss the results of FY00 activities and upcoming FY01 planning.

2.5 RFCA Standard Operating Protocol Update

Two RSOPs are under development: The RSOP for Facility Disposition and the RSOP for Facility Component Removal, Size Reduction, and Decontamination Activities. The CDPHE and EPA approved the Facility Disposition RSOP on October 5, 2000. The RSOP for Facility Disposition may be applied to all facilities at RFETS that meet the unrestricted release criteria. This RSOP was developed to document the facility disposition decision; establish the demolition process requirements and controls; assess the environmental consequences of demolishing a facility; and documents the environmental impacts of shipping Low Level (LL) and Low Level Mixed Waste (LLMW) from RFETS to appropriate disposal facilities.

The RSOP for Facility Component Removal, Size Reduction, and Decontamination Activities, once approved, may be applied to all facilities at RFETS that require decommissioning activities including: physical removal of facility components; size reduction of components to meet property reuse, waste management and/or transportation requirements; and decontamination of components in preparation for removal, size reduction, and/or building demolition. The Facility Disposition RSOP underwent formal review by the Lead Regulatory Agency (LRA) and the public during the third quarter of FY00 (May 17, 2000 through June 30, 2000).

The RSOP for Facility Component Removal, Size Reduction, and Decontamination Activities underwent formal review by the LRA and the public during the fourth quarter of FY00 and the first quarter of FY01 (September 11, 2000 through October 27, 2000). Approval of the Facility Component Removal, Size Reduction, and Decontamination Activities RSOP is anticipated during the first quarter of FY01.

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2.6 Industrial Area Characterization and Remediation Strategy Update

The Industrial Area Characterization and Remediation Strategy (IA Strategy), submitted to CDPHE and EPA in FY99, provides a roadmap to closure of the Industrial Area (IA) Operable Unit (OU). The IA Strategy integrates characterization and remediation of the IA Individual Hazardous Substance Sites (IHSSs) with D&D activities. The IA Strategy also addresses other interfaces and streamlining actions essential to achieving the goals of the 2006 CPB.

The first action of the IA Strategy is to develop an Industrial Area Sampling and Analysis Plan (IASAP). Characterization of RFETS is required for two reasons: to support remediation and to support the Comprehensive Risk Assessment (CRA). The IASAP is the sampling plan to support remediation of contaminated soil for IHSSs, Potential Areas of Concern (PACs) and under Building Contamination (UBCs) in the IA. The plan is written to enable remediation sample data and sample data from outside the IHSSs (white space) to be used for the CRA that evaluates residual risk following completion of all accelerated actions. A similar SAP will be developed for the Buffer Zone (BZ) in FY01. The IASAP and the BZ SAP sampling requirements will contain the final site characterization requirements for RFETS.

During the fourth quarter of FY00, revised preliminary Data Quality Objectives (DQOs) for the IASAP were submitted to CDPHE and EPA. The Draft IASAP was also completed and forwarded to DOE for submittal to CDPHE and EPA. The Data Summary Report was completed and forwarded to DOE for transmittal to CDPHE and EPA. The Data Summary Report contains the IA sample data that has been qualified via a data quality review process to support the IASAP and CRA. The draft CRA methodology was completed, except for determination of an open space exposure unit (EU) size, and forwarded to DOE for transmittal to CDPHE and EPA. Resolution of the EU size is expected early in the first quarter of FY01 to enable approval of the final CRA methodology by the end of the first quarter of FY01.

During the first quarter of FY01, it is planned to respond to CDPHE and EPA comments on the draft IASAP and CRA methodology, prepare final draft versions and obtain final approval. Three new tasks will be initiated during the first quarter of FY01. First, Kaiser-Hill will evaluate field instruments that will comprise the instrumentation suite for in-process sampling as described in the IASAP. Secondly, the procurement process will start to acquire a characterization subcontractor. The intent is to acquire a single subcontractor to perform all ER characterization beginning in FY02 and continuing through the completion of characterization required for closure of the Site. Thirdly, Kaiser-Hill will begin preparation of an RSOP for performing routine soil and groundwater remediation.

2.7 Historical Release Report and Environmental Restoration Ranking Update

During the fourth quarter of FY00, Kaiser-Hill and DOE prepared and transmitted supporting information and a response to EPA and CDPHE's comments on the 1997 and

1998 HRR Updates. The response reflected input from a meeting with the agencies that was held during the third quarter of FY00. Also during the fourth quarter of FY00, CDPHE and EPA transmitted a review of the 1999 HRR Update to DOE. The 2000 HRR Update was completed at the end of the fourth quarter of FY00 and will be transmitted by DOE to CDPHE and EPA early in the first quarter of FY01. The 2000 HRR Update includes the information from the Site responses to the 1997 and 1998 reviews as well as the 1999 review.

In conjunction with the HRR update process, the ER Ranking for the Site was reviewed and updated. The updated ranking was forwarded to DOE for transmittal to CDPHE and EPA at the end of the fourth quarter of FY01. Once the RFCA Parties approve the ER Ranking, it will be included in the RFCA Annual Update as RFCA Attachment 4.

2.8 Site-wide Water Balance Update

The purpose of the Site-wide Water Balance is to develop information to support a hydrologic design basis for RFETS closure activities. The objectives of the Site-wide Water Balance are to provide RFETS with a management tool to: (1) evaluate how the site-wide hydrology is likely to change from its present configuration to the final Site configuration at closure; (2) assist in predicting surface water impacts from groundwater for the present and final Site configurations; (3) provide hydrologic profiles that guide decisions concerning the final Industrial Area configuration to protect surface water quality; and (4) provide information for the RFCA Integrating Decision Document, the CRA, and the Final Corrective Action Decision/Record of Decision (CAD/ROD).

During the fourth quarter of FY00, Site-wide Water Balance activities included: (1) finalizing the Work Plan for the Site-wide Water Balance [dated August 15, 2000]; (2) reviewing, collecting, and compiling data; (3) completing a draft Model Code and Scenario Selection Report which is currently under internal review; and (4) holding meeting with regulators and stakeholders on September 21, 2000 to discuss the scope of the Work Plan and the Mike SHE computer code. (The code is named after Michael B. Abbott, the principal author of the code, and the Systeme Hydrologique Europeen [European Hydrologic System].)

Next quarter the Site-wide Water Balance will focus on constructing and calibrating the integrated hydrologic model using the Mike SHE computer code and finalizing the Model Code and Scenario Selection Report.

3.0 Site Closure Projects

3.1 Industrial Area Operable Unit, Building 779 Cluster Closure Project

The Decommissioning Operations Plan (DOP) for the B779 Cluster Project was approved by CDPHE on February 6, 1998. As of March 31, 2000, all decommissioning activities approved by the DOP were completed and the 779 Cluster had been demolished. The

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Decommissioning Final Closeout Report was completed by Kaiser-Hill and submitted to RFFO on May 24, 2000. RFFO transmitted the report to CDPHE and EPA on August 16, 2000.

Consistent with the Decommissioning Final Closeout Report, the remaining Cluster area and slabs have been turned over to B776 for oversight and control prior to commencement of ER activities currently planned for the first quarter of FY04.

3.2 Industrial Area Operable Unit, Building 771 Closure Project

The 771 Closure Project DOP was approved by CDPHE on January 11, 1999. One D&D work set was completed during the fourth quarter of FY00. A total of nine D&D work sets have been completed in FY00 in B771 through the end of the fourth quarter of FY00. The 771 Closure Project is developing a DOP modification. This major modification will include demolition activities, under building remediation, and streamline the Resource Conservation and Recovery Act (RCRA) closure process. It is anticipated that the major modification will be available for formal public comment review during the first quarter of FY01.

3.3 Industrial Area Operable Unit, Building 776/777 Closure Project

The B776/777 Closure Project DOP was approved by CDPHE on November 5, 1999. The Material Access Area (MAA) in B776 was eliminated on July 5, 2000, closing out a RFCA target three months ahead of schedule. Significant progress in the D&D of B776/777 was made during the fourth quarter of FY00. Nine D&D sets were completed during the quarter, bringing the total to sixteen sets completed in FY00. There are a total of eighty-four work sets in the 776/777 project.

Ten RCRA-regulated tanks were removed during FY00 (6 mixed residue tanks and 4 interim status tanks). In addition, 9 mixed residue tanks were drained to a physically empty status during FY00.

3.4 Industrial Area Operable Unit, Building 371/374 Closure Project

During the fourth quarter of FY00, the B371/374 Closure Project Team conducted the following activities:

(1) Completed all the Reconnaissance Level Characterization (RLC) sampling and issued a report for DOE RFFO approval.
(2) Continued development of the cluster DOP. Internal review will take place in the first quarter of FY01. DOP approval by March 2001 will support decommissioning schedules and allow the DOP to incorporate the Component Removal and Facility Disposition RSOP.
(3) Provided D&D Pizza Meeting briefing on the Project's decommissioning strategy, scope, schedule, and issues; and a second proposed use of cerium nitrate to

decontaminate stainless steel tanks and gloveboxes to Surface Contaminated Object levels.

Activities planned for the first quarter of FY01 include:

(1) Submittal of the RLC Report to the LRA for concurrence.
(2) Submit DOP to the LRA for public review.
(3) Submittal of a RFCA decision to the LRA to allow the use of cerium nitrate to decontaminate Raschig ring tanks prior to DOP approval.
(4) Submittal of a PAM to the LRA to allow removal of Glovebox 74 prior to DOP approval.

3.5 Industrial Area Operable Unit, Building 707 Closure Project

During the fourth quarter of FY00, the B707 Closure Project Team conducted the following activities:

(1) Completed the LRA review of the RLC Report, incorporated LRA comments, and received LRA approval by letter dated August 24, 2000. The RLCR designated B707 as a Type 3 facility, Buildings 708, 709, 731, 732, 778, and Tank T-206/D-2 as Type 2 facilities, and Buildings 711, 711a, T707S, and the remaining external tanks as Type 1 facilities under RFCA.
(2) Completed the informal review of the B707 DOP by the LRA, the Support Regulatory Agency (SRA), and selected stakeholders, and dispositioned and incorporated comments. The DOP was formally transmitted to the LRA on September 21, 2000.
(3) Engaged the consultative process for room conversion activities in B778 to provide space for tool storage.
(4) Continued detailed planning.

Activities planned for the first quarter of FY01 include: (1) issuance of the DOP for a 45-day public comment, with subsequent comment resolution and DOP approval by the LRA and (2) additional detailed decommissioning planning, including development of the Basis of Interim Operations document revision and development of the Readiness Assessment plan.

3.6 Remediation, Industrial & Site Services Project

3.6.1 Environmental Restoration

3.6.1.1 Buffer Zone Operable Unit, 903 Pad

The RFCA Parties have agreed not to pursue a proposal by the EPA to assume responsibility for 903 Pad remediation. Kaiser-Hill has baselined the field portion of the project to begin in FY03 with completion in FY05.

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3.6.1.2 OU7

The passive aeration treatment system has continued to meet the treatment objectives for volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). For the first year of operation, monthly sampling was performed to characterize VOCs and SVOCs from the influent, and metals and radionuclides from the treatment system effluent. Although the aeration system was designed to remove VOCs, some SVOC treatment is being achieved.

A report entitled, "Evaluation of OU7 Aeration Treatment System, November 1998-October 1999" was revised based on comments from EPA and CDPHE. The revised Evaluation Report was transmitted to the agencies during the fourth quarter of FY00. The OU7 SAP was also revised based on comments from EPA and CDPHE and transmitted during the fourth quarter of FY00.

The Evaluation Report supports semi-annual sampling, which is planned to replace monthly sampling in accordance with the revised SAP. Based on the Evaluation Report and the revised SAP, samples are to be collected monthly for VOCs until the performance objective for benzene is attained for two consecutive months. Samples are also to be collected for two additional months for SVOCs to verify that the performance objective is being achieved for bis(2-ethylhexyl) phthalate. Once performance objectives are consistently being met as demonstrated by these criteria, samples will be collected semi-annually in June and December.

Samples were collected in June and July for VOCs and in July and August for SVOCs. The performance objectives were attained for all VOCs. Therefore, the next sampling for VOCs is planned in December. The performance objectives for all SVOCs were also met for July. Another sample was collected in August. Analytical results from the August sample are not yet available.

3.6.1.3 Plume Maintenance and Monitoring

Operation, maintenance and monitoring continue for the three reactive barriers and two other plume treatment systems at Rocky Flats. The reactive barriers are the Mound Site Plume, East Trenches Plume and Solar Ponds Plume groundwater collection and treatment systems. The other two plume systems collect and treat groundwater at OU1–881 Hillside and at the OU 7 – Present Landfill Seep. The quarterly activities and performance monitoring data for the five systems are provided in the Quarterly Report for the Rocky Flats Groundwater Plume Treatment Systems that was completed on September 30, 2000. This document will be provided to CDPHE and EPA during the first quarter of FY01.

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3.6.1.4 OU1

The draft Modification to the OU1 CAD/ROD was released for a 30-day public comment period from July 24, 2000 to August 21, 2000. The draft document proposes discontinuing operation of the OU1 collection well one year after signing the modified OU1 CAD/ROD. Comments were received and dispositioned from Broomfield, Westminster, Man-in-the-Maze Consulting, and CDPHE. The final Modification is awaiting final issue resolution with the agencies.

Decommissioning of the French Drain began after completion of the Public Comment Period and was substantially completed by September 20, 2000. Because this activity was planned in both the original and modified OU1 CAD/ROD, concurrence was received from EPA and CDPHE that decommissioning did not require approval of the OU1 CAD/ROD Modification prior to implementation. The French Drain system was breached at the lowest point and the collected groundwater now flows underground to the South Interceptor Ditch. Revegetation of the area and submittal of the closeout report will be completed in the first quarter of FY01.

3.6.1.5 Characterization of Under Building Contamination 123 and Building 886 Implementing Horizontal Directional Drilling Environmental Measurement While Drilling

Under Building Contamination location 123 (where the demolished former B123 slab is located) and B886 have been selected as the sites to demonstrate real time monitoring of radionuclides using a Gamma Ray Spectrometer in conjunction with horizontal directional drilling to perform: 1) a final characterization at UBC 123 and 2) partial investigation at B886. Contracts for horizontal drilling and geoprobe sampling were awarded during the fourth quarter of FY00. Work is expected to begin early in the first quarter of FY01 and be completed by the end of November 2000.

3.6.1.6 Status of Trench 1 Waste

Table 1 summarizes the status of Trench 1 waste as of July 28, 2000. Further updates will be provided as appropriate.

Table 1. Status of Trench 1 Waste as of July 28, 2000

Waste Type	Regulatory Classification	Packaging	Expected Disposition & Current Status
Soil, (≥ 5,000 but ≤ 10,000 cpm) < 25 ppm (OVA) above background.	CERCLA Waste, LLMW, Hazardous waste (F001, F002) * contains PCB's less than regulatory level, not TSCA regulated	21 – B-88 metal boxes	Shipped for disposal at Envirocare in FY-99/00.
Soil, > 10,000 cpm) < 25 ppm (OVA) above background	CERCLA Waste, LLMW, Hazardous waste (F001, F002) * Contains PCB's less than regulatory level, not TSCA regulated	30 – B-88's	Shipped for disposal at Envirocare in FY-99/00.
Excavated Debris	CERCLA Waste, LLMW, Hazardous debris waste (F001, F002), PCB Remediation Waste, PCB Bulk Product Waste ** Contains PCB's above regulatory levels, TSCA regulated	5 – B-88's	Shipped for disposal at Envirocare in March 00.
Project generated debris	CERCLA Waste, LLW	1 – B-88 4 – B-12's 1 – 55 gallon drum	Shipped for disposal at NTS in FY-99.
Soil, ≥ 25 ppm (OVA) above background	CERCLA Waste, LLW, Hazardous waste (F001, F002) * Contains PCB's less than regulatory level, not TSCA regulated	10 – B-88's	Containers have been relocated to covered storage at the 904 Pad pending identification of treatment solution.
Decanted Lathe coolant, waste solvent	CERCLA Waste, LLW, Hazardous waste (F001, F002), PCB Remediation Waste (PCB liquid)	1 – 55 gal. poly drum (<15 gallons)	Two drums treated in FY99. Current proposal is to treat remaining drum with DU waste stream.

Waste Type	Regulatory Classification	Packaging	Expected Disposition & Current Status
	** Contains PCB's above regulatory levels, TSCA regulated		
PPE Waste	CERCLA Waste, LLW	5- B-88's 1 – B-12	Shipped for disposal at NTS FY-99/00.
Historic Samples, containing natural (UH3) and depleted uranium (tuballoy), with excavated soil	CERCLA Waste, LLW, Hazardous debris waste (F001, F002, D006) PCB Remediation Waste ** Contains PCB's above regulatory levels, TSCA regulated	1 – B-12	To be treated/disposed at a vendor site. Currently no vendor site with capability (permits, licenses, equipment) to treat.
Soil with DU/ Thorium Waste	CERCLA Waste, LLW, Hazardous waste (F001, F002, D006) PCB Remediation Waste ** Contains PCB's above regulatory levels, TSCA regulated	1 – B-12	To be treated/disposed at a vendor site. Currently no vendor site with capability (permits, licenses, equipment) to treat.
Depleted Uranium (DU)	CERCLA Waste, LLW, Hazardous waste (F001, F002, D006), PCB Remediation Waste, (w/ PCB liquid) ** Contains PCB's above regulatory levels, TSCA regulated	80 – 83 gallon drums 49 – 110 gallon drums 23 – B-12's	To be treated/disposed at a vendor site. Currently no vendor site with capability (permits, licenses, equipment) to treat.
Thorium Waste	CERCLA Waste, LLW, Hazardous waste (F001, F002, D006) PCB Remediation Waste ** Contains PCB's above regulatory levels, TSCA regulated	1 – 110 gallon drum	To be treated/disposed at a vendor site. Currently no vendor site with capability (permits, licenses, equipment) to treat.
Return Samples	CERCLA Waste, LLW, Hazardous waste (F001, F002, D006), PCB Remediation Waste ** Contains PCB's above regulatory levels,	4 – 83 gallon drums	To be treated/disposed at a vendor site. Currently no vendor site with capability (permits, licenses, equipment) to treat.

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Waste Type	Regulatory Classification	Packaging	Expected Disposition & Current Status
	TSCA regulated		
Cemented cyanide, including debris, drum lids and rings, sampling equipment, and PPE used during cyanide sampling activities	CERCLA Waste, LLW, Hazardous waste (F006, F008, D006), Asbestos Containing Material (ACM)	10 – 110 gal. Drums 1 – 83 gal. drum	Subcontract in place for treatment at WCS. Treatability Study at off-site vendor facility complete. Shipment of waste for treatment/disposal is currently anticipated for FY-01.
DU-Ingot ("puck")	CERCLA Waste, LLW	1 – 55 gallon drum	Disposal at NTS in FY-00.

3.7 Materials Stewardship

3.7.1 RFCA Milestone: Ship 6000m3 of LL/LLMW between 10/1/99 and 9/30/00.

Complete.

3.7.2 RFCA Milestone: Complete 86 shipments to WIPP during FY00. This assumes WIPP is open and remains open during the fiscal year; WIPP receives a RCRA disposal permit and can accept Rocky Flats TRU and TRM by February 2000. NMED certifies shipments of Rocky Flats waste to WIPP by February 2000.

By letter dated March 28, 2000, DOE notified CDPHE and EPA that DOE does not expect to meet this milestone. The RFCA Parties made no modifications to this milestone during FY00. Assumptions in this milestone were not met.

3.7.3 RFCA Milestone: Store TRU waste in B906 by September 1, 2000. If B906 is needed prior to September 1, 2000, for TRU waste storage, then B906 must be ready in time to not impact residues or D&D.

TRU waste was not stored in Building 906 by September 1, 2000. By letter dated September 22, 2000, CDPHE and EPA notified DOE of an assessment of stipulated penalties for missing a milestone pursuant to RFCA Part 17. Subsequent discussions resulted in stipulated penalties of $40,000 with a dollar-for-dollar offset through implementation of a Supplemental Environmental Project(s).

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4.0 RFCA Milestones and Target Activities

4.1 Status of RFCA FY00 Milestones and Target Activities

Table 2 summarizes the status of each RFCA FY00 Milestone and Target Activity.

Table 2. RFCA FY00 Milestones and Target Activities

FY00-M2	Complete demolition to slab of B779 by 9/30/00	Complete
FY00-M5	Ship 6000m3 of LL/LLMW between 10/1/99 and 9/30/00	Complete
FY00-M6	Complete 86 shipments to WIPP during FY00. This assumes WIPP is open and remains open during the fiscal year; WIPP receives a RCRA disposal permit and can accept Rocky Flats TRU and TRM by February 2000. NMED certifies shipments of Rocky Flats waste to WIPP by February 2000.	DOE has notified EPA and CDPHE by letter on March 28, 2000, that DOE does not expect to meet this milestone. See section 3.7.2.
FY00-new	Store TRU waste in B906 by September 1, 2000. If B906 is needed prior to September 1, 2000, for TRU waste storage, then B906 must be ready in time to not impact residues or D&D. (i.e. Slowing down the generation rate of TRU waste is not an acceptable means of meeting this milestone).	TRU waste was not stored in B906 by September 1, 2000.
FY00-new	Complete 18 D&D work sets between 10/1/99 and 9/30/00.	Complete. See sections 3.2 and 3.3.
FY00-T1	Complete eU shipments, except eU contaminated with plutonium. (Uncertainties beyond RFFO control are acknowledged to exist in the availability of receiver sites and transportation corridors.)	Complete
FY00-T2	Install and operate the Plutonium Packaging System in Building 371 by March.	This target activity was not met.
FY00-T3	Close Material Access Area in Building 776.	Complete

4.2.1 RFCA Earned Value Milestone Proposal

In early FY00, the DOE proposed the concept of using earned value as a method for establishing 3-year rolling RFCA milestones. The RFCA Principals were briefed on the concept in May 2000, afterwhich, they instructed the RFCA Coordinators to refine the methodology and rebrief them on a more definitive proposal. A briefing on the definitive proposal is scheduled for October 2000.

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5.0 Water Management

Water management activities during the fourth quarter of FY00 are summarized by (1) Watershed Improvements; (2) Surface Water Management; (3) Surface Water Monitoring; (4) Groundwater Monitoring; and (5) the Rocky Flats Water Working Group.

5.1 Watershed Improvements

No watershed improvements were implemented during the fourth quarter of FY00.

5.2 Surface Water Management

5.2.1 Fourth Quarter of FY00

During the fourth quarter of FY00, the Site completed the following pond water transfers and discharges totaling 42.83 Million Gallons (MG), an increase of 6% compared to the fourth quarter of FY99 (40.26 MG).

Pond A-3 activity included two routine outlet-valve direct discharges to Pond A-4 totaling 10.82 MG. The first discharge of 7.13 MG occurred during the period of July 17 through 24, 2000. The second discharge of 3.69 MG occurred during the period of August 28 through 31, 2000.

Pond B-1 activity included one transfer of treated effluent from the B995 Wastewater Treatment Plant (WWTP) totaling 0.10 MG that occurred on July 13, 2000. This transfer was performed to supply adequate water in Pond B-1 to keep the pond sediments covered.

Pond B-5 activity included two routine outlet-valve direct discharges to South Walnut Creek totaling 31.91 MG. The first discharge of 16.64 MG occurred during the period of August 3 through 17, 2000. The second discharge of 15.27 MG occurred during the period of September 14 through 26, 2000. Water quality samples were collected and analyzed, and all approvals were obtained prior to the discharges. The City of Broomfield diverted the Pond B-5 discharges around Great Western Reservoir via the Broomfield Diversion Ditch.

There were no Pond A-1, A-2, A-4, B-2, C-2, or Landfill Pond transfers or discharges during the fourth quarter of FY00.

Transfers and discharges from the Site ponds during the fourth quarter of FY00 are summarized in Table 3.

Table 3. Site Pond Water Transfers and Discharges - Fourth Quarter FY00

Dates	Pond Activity	Total MG	Mode
7/17 to 7/24	A-3 to A-4	7.13	Outlet-valve direct discharge
8/28 to 8/31	A-3 to A-4	3.69	Outlet-valve direct discharge
7/13	WWTP to B-1	0.10	WWTP effluent transfer
8/3 to 8/17	B-5 to SWC	16.64	Outlet-valve direct discharge
9/14 to 9/26	B-5 to SWC	15.27	Outlet-valve direct discharge
	Total for Quarter	**42.83 MG**	

5.3 Surface Water Monitoring

5.3.1 Fourth Quarter of FY00

During the fourth quarter of FY00, 70 automated monitoring system samples were collected and submitted for analysis. In addition to the RFCA base program, 12 samples were collected and submitted for analysis as part of the synoptic sampling event for DOE's ongoing GS10 source investigation (as prescribed in the *Sampling and Analysis Plan for Automated Synoptic Surface-Water and Sediment Sampling for the GS10 Source Investigation*).

On August 29, 2000, the Kaiser-Hill Team received validated analytical results that indicated RFCA reportable values had been observed for plutonium at RFCA POE SW027 which is located in the South Interceptor Ditch upstream of Pond C-2 in Woman Creek basin. Calculated 30-day moving averages for plutonium (Pu) first triggered the reporting requirements under RFCA Attachment 5, Section 2.4 (B) on June 26, 2000. DOE transmitted this information to the EPA and the CDPHE within the 15-day reporting period, which ended on September 12, 2000.

An interim report summarizing available data for the ongoing GS10 reportable event and initial results of the GS10 sub-drainage synoptic and sediment sampling source investigation was prepared and submitted to DOE RFFO. This data summary, originally requested by CDPHE included maps showing the synoptic sampling locations with results and sediment sampling locations coded as to the priority for sample analysis.

The 30-day moving averages for all other RFCA POE and all Points of Compliance monitoring locations were below the RFCA action levels and standards during the fourth quarter of FY00 for all monitored metals and radionuclides.

The installation of a second B771/774 Performance and Source Location monitoring station (GS44) is in the final phase. B771 personnel are working with surface water monitoring to facilitate installation of GS44, which will be located west of the B771/774 complex between T771F and T771L. This location will also collect continuous flow-paced composite samples of surface water originating as runoff and footing drain discharge. The sub-drainage tributary to GS44 covers an area of approximately 4.1 acres.

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5.4 Ground Water Monitoring

The first (calendar) Quarter 2000 groundwater monitoring report was presented to the stakeholders at the Quarterly Information Exchange Meeting on August 29th, 2000.

The 1999 Draft RFCA Annual Groundwater Monitoring report was submitted for DOE and Kaiser-Hill review on September 28, 2000 as scheduled.

The SAP for the D&D Monitoring of Buildings 707, 371/374, 776/777 and 883/865 was approved and monitoring wells have been installed at Buildings 776/777. Wells will not be installed this quarter for Buildings 883/865 because schedule changes have moved D&D of these buildings further out than originally planned.

The SAP for the natural attenuation monitoring of the PU&D Yard have been approved by CDPHE and EPA and well installation is 80% complete.

All groundwater samples and water level measurements for the third quarter of calendar year 2000 were completed on September 28, 2000.

The ICP/MS Uranium sampling and analysis project, which is being conducted jointly with CDPHE, was completed as of August 30, 2000.

Additional groundwater monitoring requirements were outlined in March 2000 to supply additional data for the site water balance modeling effort. Additional groundwater monitoring was completed for the third quarter of FY00, and consisted of water level measurements from 72 wells and real time water level measurements from 13 wells.

5.5 Rocky Flats Water Working Group

The RFETS Water Working Group was combined with the Quarterly Exchange of Information Meeting held on August 19, 2000. In addition to the quarterly exchange of information, the following topics were discussed: 1) a Site pond status update, 2) an update on the RFCA reportable event at POE GS10, 3) the solar ponds plume project, and 4) a brief on the Site-wide Water Balance project.

6.0 List of Approved Decision Documents

This list of approved decision documents provides the information for the update to RFCA Attachment 12.

(1) A minor modification to the B776/777 DOP was submitted by DOE to CDPHE for approval on September 13, 2000 (modification #5). This minor modification includes updates to Table 6, RCRA-Regulated Units, and the addition of unit-specific closure information for set 55. CDPHE approved the minor modification on September 13, 2000.

(2) CDPHE and EPA approved the Facility Disposition RSOP on October 5, 2000.